Brazilian airport concessions: lessons learned and challenges
1. Brazilian air transport sector
   - The role of AEP/BNDES
   - Supply and demand
   - Air transport sector planning

2. Concessions of GRU, VCP and BSB
   - Concession agreement
   - Bidding rules and auction design
1. Brazilian air transport sector

### The role of AEP/BNDES

<table>
<thead>
<tr>
<th>Study</th>
<th>Scope</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Concession of S. Gonçalo do Amarante Airport (Natal) – ASGA</strong></td>
<td>Bid package + Tender release + Concession agreement</td>
<td>Concession agreement signed in November 2011</td>
</tr>
</tbody>
</table>
| **2. Study of the air transport sector in Brazil** | - Demand  
- Infrastructure  
- Governance  
- Air services | Completed and available at the BNDES website |
| **3. Infraero Restructuring Study** | - Diagnostic (Management, Legal and Accounting issues)  
- Alternative models  
- Strategic Plan | Completed |
| **4. Airport Concession: Guarulhos, Viracopos and Brasília.** | Bid package + Tender release + Concession agreement | Concession agreement signed in June 2012 |
Current total* = 129 aerodromes with regular flights (127 cities)

- Main network: 31 aerodromes serve 30 cities (27 capitals + Guarulhos, Campinas e Confins)
- Regional network: 98 regional aerodromes serve 97 cities
1. Brazilian air transport sector

Air passenger demand

* World CAGR in 2003-2010 was 4.8%
* Domestic market has increased faster than international market
1. Brazilian air transport sector

- **Reduction of air fares**
- **Demand for air transport grew 12.2% a year (2003-2011)**
- **GDP growth**

- **Yield - ANAC**

<table>
<thead>
<tr>
<th>Year</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>0.81</td>
</tr>
<tr>
<td>2003</td>
<td>0.88</td>
</tr>
<tr>
<td>2004</td>
<td>0.84</td>
</tr>
<tr>
<td>2005</td>
<td>0.83</td>
</tr>
<tr>
<td>2006</td>
<td>0.75</td>
</tr>
<tr>
<td>2007</td>
<td>0.55</td>
</tr>
<tr>
<td>2008</td>
<td>0.75</td>
</tr>
<tr>
<td>2009</td>
<td>0.54</td>
</tr>
<tr>
<td>2010</td>
<td>0.40</td>
</tr>
<tr>
<td>2011</td>
<td>0.35</td>
</tr>
</tbody>
</table>

- **GDP growth**

<table>
<thead>
<tr>
<th>Period</th>
<th>GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-2002</td>
<td>1.9%</td>
</tr>
<tr>
<td>2003-2011</td>
<td>3.9%</td>
</tr>
</tbody>
</table>
1. Brazilian air transport sector

Demand growth from January to July 2012 compared to the same period in 2011

<table>
<thead>
<tr>
<th>Airport</th>
<th>Demand Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIG</td>
<td>22%</td>
</tr>
<tr>
<td>VCP</td>
<td>20%</td>
</tr>
<tr>
<td>CNF</td>
<td>18%</td>
</tr>
<tr>
<td>VIX</td>
<td>14%</td>
</tr>
<tr>
<td>GYN</td>
<td>11%</td>
</tr>
<tr>
<td>POA</td>
<td>10%</td>
</tr>
<tr>
<td>GRU</td>
<td>10%</td>
</tr>
<tr>
<td>FLN</td>
<td>7%</td>
</tr>
<tr>
<td>SDU</td>
<td>5%</td>
</tr>
<tr>
<td>BSB</td>
<td>4%</td>
</tr>
<tr>
<td>MAO</td>
<td>4%</td>
</tr>
</tbody>
</table>

Average (%) = 8.2%

Source: INFRAERO
The passenger to population ratio has more than doubled in less than a decade. However, the Brazilian ratio is still less than a third of the ratio of mature markets.

Source: INFRAERO, IBGE, Brazilian Air Transport Study (2009)
1. Brazilian air transport sector

✔ Overview of the Brazilian airport infrastructure constraints

<table>
<thead>
<tr>
<th>Aeroporto</th>
<th>Runway DECEA</th>
<th>Apron</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guarulhos</td>
<td>2030</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Congonhas</td>
<td>Limited</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Viracopos</td>
<td>2020</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Galeão</td>
<td></td>
<td></td>
<td>2030</td>
</tr>
<tr>
<td>Santos Dumont</td>
<td>2030</td>
<td>Saturated</td>
<td>2030</td>
</tr>
<tr>
<td>Confins</td>
<td></td>
<td>2020</td>
<td>Saturated</td>
</tr>
<tr>
<td>Pampulha</td>
<td>2030</td>
<td>2014</td>
<td>2014</td>
</tr>
<tr>
<td>Brasília</td>
<td>2030</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Porto Alegre</td>
<td>2030</td>
<td>2030</td>
<td>Saturated</td>
</tr>
<tr>
<td>Curitiba</td>
<td>2030</td>
<td>2030</td>
<td>2030</td>
</tr>
<tr>
<td>Recife</td>
<td>2030</td>
<td>2030</td>
<td>2030</td>
</tr>
<tr>
<td>Salvador</td>
<td>2020</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Fortaleza</td>
<td></td>
<td>2030</td>
<td>Saturated</td>
</tr>
<tr>
<td>Manaus</td>
<td></td>
<td>2030</td>
<td>2030</td>
</tr>
<tr>
<td>Cuiabá</td>
<td>2030</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Natal</td>
<td></td>
<td></td>
<td>2014</td>
</tr>
<tr>
<td>Florianópolis</td>
<td></td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Vitória</td>
<td>2030</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
<tr>
<td>Belém</td>
<td></td>
<td>2014</td>
<td>2014</td>
</tr>
<tr>
<td>Goiânia</td>
<td>2030</td>
<td>Saturated</td>
<td>Saturated</td>
</tr>
</tbody>
</table>

Source: INFRAERO Restructuring Study (2010), Mckinsey & Co.

1 The 20 airports analyzed account for 90% of passenger traffic
Air transport sector planning

**Short run**

1. Introduce private market participation in strategic airports to increase capacity and efficiency.
   - GRU, VCP and BSB

**Long run**

2. Improve Infraero’s operational and financial performance
3. Increase the regional aviation infrastructure network.
Concessionaire capital structure

- **Rationale**
  - Support the sustainability of the other INFRAERO airports through a robust flow of dividends
  - Improve INFRAERO's overall operation

**Diagram Description**

- **A**, **B**, and **C** are entities involved in the capital structure.
- **Private partner (SPC)**
  - 51% to **Concessionaire**
  - 49% to **Concessionaire**

**Context**

1. Brazilian air transport sector
1. Brazilian air transport sector

Contribution to the airport system

*FNAC GOALS:*
- Support the airport network
- Improve quality of service
- Foster regional aviation

Investment and maintenance of other airports
1. Brazilian air transport sector

Regional Aviation Expansion target

<table>
<thead>
<tr>
<th>Region</th>
<th>Today</th>
<th>Target</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>73%</td>
<td>77%</td>
<td>57%</td>
</tr>
<tr>
<td>N</td>
<td>71%</td>
<td>57%</td>
<td>36%</td>
</tr>
<tr>
<td>NE</td>
<td>64%</td>
<td>47%</td>
<td>22%</td>
</tr>
<tr>
<td>S</td>
<td>88%</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>SE</td>
<td>89%</td>
<td>41%</td>
<td>28%</td>
</tr>
<tr>
<td>Total</td>
<td>92%</td>
<td>96%</td>
<td>580</td>
</tr>
</tbody>
</table>

Population served today (100 km radius) → roughly 151 million
Population served under the new plan (100 km radius) → roughly 174.8 million
Populations served in the USA (70 mi = 112 km radius) → roughly 287 million
2. Concessions of GRU, VCP and BSB

Timeline

06/2011
Decision to concede GRU, VCP e BSB

10/2011
Conclusion of the bid package

12/2011
Tender release

02/2012
Auction

05/2012
Signing of the concession agreement

09/2012
Beginning of construction work
2. Concessions of GRU, VCP and BSB

The choice of GRU, VCP and BSB

**Macro conditions**
- Strong demand growth;
- Difficulty in increasing capacity.

**Micro conditions**
- Strategic assets;
- World Cup timing.

**Infrastructure bottlenecks**
Guarulhos International Airport

**Airport Characteristics**

- The busiest airport in Latin America
- GRU will still be the primary Brazilian international gateway with a substantial international service
- Traffic in 2011: 29,9 m pax
  - 11,3 m – International Passengers (38%)
  - 18,6 m – Domestic Passengers (62%)
- Passenger traffic increased 7.1% per year in the last 20 years
- Passenger traffic increased 11% in 2011
- Estimated traffic by 2031: 54 m pax
- Period of concession: 20 years
- Estimated investment: US$ 3,1 bn
2. Concessions of GRU, VCP and BSB

Viracopos Airport

Airport Characteristics

- VCP will be the largest cargo airport in Brazil
- Passenger overflow from GRU to VCP to begin in 2015
- Strong growth for the next 30 years – potential to become the largest airport in terms of passengers
- Traffic in 2011: 7.5 m pax
  - 112 m – International Passengers
  - 7.4 m – Domestic Passengers
  - Passenger traffic increased 35% per year in the last 8 years
  - Passenger traffic increased 38% in 2011
  - Estimated traffic by 2041: 90 m pax
- Period of concession: 30 years
- Estimated investment: US$ 5.1 bn
### Brasília International Airport

#### Airport Characteristics

- Already an important hub for domestic flights (40% of domestic passengers are connecting passengers) and potential to become a hub for international flights as well.
- Traffic in 2011: 15.3 m pax
  - 15 m – Domestic Passengers
  - 0.3 m – International Passengers
- Passenger traffic increased 10.6% per year in the last 8 years.
- Passenger traffic increased 6.9% in 2011.
- Estimated traffic by 2037: 50 m pax.
- Period of concession: 25 years.
- Estimated investment: US$ 1.8 bn.
Concessions overview

- Concession for expansion, maintenance and operation of the Airports
- Air traffic services (ATS) are not part of the concession
- There are 3 distinct objects:
  - Guarulhos International Airport (GRU)
  - Campinas International Airport (VCP)
  - Brasília International Airport (BSB)
- INFRAERO: the government owned company holds 49% of the SPC´s capital;
2. Concessions of GRU, VCP and BSB

Airports: Two-sided Platforms

Natural Monopoly

Infrastructure: runway, apron, terminal

Aero Side: Public Service, regulated, airlines

Infrastructure: ATS, security, communication and baggage handling systems

Non-aero side: shopping mall, unregulated, passengers

Competition: airline market
# Concession agreement: regulatory framework

## Economic regulation
- *Price Cap* (RPI-X-Q)
- Risk allocation
- Financial rebalance of the contract

## Monitoring
- Periodic review of the capex program
- Investment triggers

## Quality of service
- Quality of service plan
- Quality of service index and Q factor

## Concession agreement update
- Review of the concession parameters
2.1 Economic Regulation

Economic regulation

Tariff adjustment: \( \text{Tariff}_{\text{year1}} = \text{Tariff}_{\text{year0}} \times (1 + \text{RPI} - X - Q) \)

- Price cap: protection against natural monopoly
- Sharing of productivity gains
- Adequate quality of service
## 2.1 Economic Regulation

### Revenues

#### Aero revenues

- Price caps: (i) boarding, (ii) connection, (iii) landing and parking, (iv) cargo
- The Concessionaire will be able to give tariff discounts on a transparent and non-discriminatory basis

#### Non-aero revenues

- Commercial revenues from restaurants, duty free, car parking, internet, etc
- Rents are freely negotiated
Revenues

Revenue from ancillary activities

- Areas and activities essential to air transport
- e.g.: fuel supplying, aircraft maintenance, telecommunications, meteorology etc.
- The payment for the usage of Operational Areas and Activities will be freely negotiated between the concessionaire and the contracting parties.
- In case of unfair or discriminatory practices ANAC can establish price regulation for the use of the Essential Areas and Activities
2.1 Economic Regulation

Risk allocation

Public risks
- Tax changes
- Operational restrictions due to public agency
- Infraero’s liabilities
- Changes to the project due to grantor determination

Private risks
- Demand
- Revenue
- Costs
- Operational
- Design and Construction
- Technological
- Financial and exchange rate
2.1 Economic Regulation

Financial rebalance of the contract

• **Extraordinary revision:**
  ✓ Aimed at recovery of the financial balance of the contract;
  ✓ Request by ANAC/Concessionaire;
  ✓ Modification of charges, term, obligations;

• **Procedure:** in accordance with Marginal Cash Flow Annexure;

**Marginal Cash Flow:**

✓ Contains the procedure for the financial rebalance of the contract that will be applicable for each event;

✓ The discount rate used will be determined through the review of the Concession Parameters and it will be preceded by public hearing.
### 2.2 Quality of Service

Based on International Air Transport Association (IATA) level C

<table>
<thead>
<tr>
<th>Level of service</th>
<th>Flow</th>
<th>Delay</th>
<th>Comfort</th>
<th>Examples</th>
</tr>
</thead>
</table>
| A                | Free   | Not existent | Excelent | • New Doha  
|                  |        |            |         | • Incheon  
|                  |        |            |         | • Narita T2  
|                  |        |            |         | • Taipei T2  
|                  |        |            |         | • Singapore T3  |
| B                | Stable | Very few   | High    | • New York T4  
|                  |        |            |         | • San Francisco (int)  
|                  |        |            |         | • Deli T3  
|                  |        |            |         | • Heathrow T5  
|                  |        |            |         | • Toronto and Vancouver  
|                  |        |            |         | • Brisbane and Sydney |
| C                | Stable | Acceptable | Good    | • Miami (several terminals) |
| D                | Unstable | Tolerable | Adequate | • Guarulhos  
|                  |        |            |         | • Bogota |
| E                | Unstable | Unacceptable | Inadequate |
2.2 Quality of Service

Quality of service index

Measuring methods

TECHNICAL REPORT +

USER SATISFACTION SURVEY

Q factor
2.2 Quality of Service

Quality of service index (QSI)

**Objective measures (e.g.)**
- Security queue time
- Equipment availability
- Boarding bridges
- Number of severe events (robbery)
- Backup electricity
- Check-in facilities
- Baggage processing
- Air conditioning

**USER SATISFACTION SURVEY (e.g.)**
- Organization
- Car parking
- Commercial services
- General comfort
- Communication services
- Banking services

**Variety**

**Quality**
## Quality of Service and the Q factor (e.g.)

<table>
<thead>
<tr>
<th>Category</th>
<th>Criterion</th>
<th>Standard</th>
<th>Penalty</th>
<th>Target</th>
<th>Bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security queue time</td>
<td>% pax waiting more than 5 minutes</td>
<td>10%</td>
<td>-1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Escalator, elevator, conveyor belt</td>
<td>Percent of time that the item is available</td>
<td>99%</td>
<td>-0.45%</td>
<td>100%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Baggage processing system</td>
<td>Percent of time that the item is available</td>
<td>99%</td>
<td>-0.55%</td>
<td>100%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Boarding bridges</td>
<td></td>
<td>99%</td>
<td>-0.65%</td>
<td>100%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
2.3 Concession Monitoring

Airport Operation Plan

- Main Purpose
- Concession Monitoring
- PEA
- Object of the concession
- Quality of Service Indicators
- Infrastructure Improvements
- Required Airport Elements
- Infrastructure Management Plan
- Quality of Service Plan
Airport Operation Plan: key parts

- **Infrastructure Management Plan**
  - Must be approved by ANAC
  - Mandatory for the Concessionaire
  - Contains the concessionaire plan for the maintenance and improvement of the airport infrastructure, in accordance to the investment triggers
  - The Airport Operation Plan will be reviewed every 5 years or every time that real demand surpasses the demand forecast

- **Quality of Service Plan**
  - Must be approved by ANAC
  - Contains the concessionaire plan to meet the Quality of Service Indicators
  - Mandatory for the Concessionaire
  - The Airport Operation Plan will be reviewed every 5 years
2.3 Concession Monitoring

**Investment trigger**

- **Terminal area per peak hour passenger (m²/PHP)**
- **Projection of terminal capex (R$ Bi nominal)**

*Graphical representation showing the terminal area per peak hour passenger and the projection of terminal capex over a period of years, with markers for the beginning of the 1st, 2nd, and 3rd cycles of investments.*
Revision of the Concession Parameters

Rationale:

• Long Term Agreements;
• The uncertainty of future technical and economic scenarios;
• Public Utilities.

Concession Parameters Revision (every 5 years):

• Preceded by Public Hearing
• X Factor
• IQS / Q Factor
• WACC to MCF
Technical Qualification:

- Minimum experience of 5 years operating airports; and
- Over the last ten years must have operated airport that has processed at least 5 million passengers/year, including boarding, landing and connecting passengers.

Rationale:

- Concessionaire has the incentive to partner up with top operators or hire globally recognized experts in master planning and operation
- Technical expertise easily found in the market:
  - Major operators: investments in equity, management contracts and consultancy contracts
  - Several high quality consultancy firms: master planning and operation
## 2.5 Bidding rules and auction design

### FRAPORT investments in equity shares

<table>
<thead>
<tr>
<th>Partner</th>
<th>Majority</th>
<th>Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>• Antalya, Turkey (51%)&lt;br&gt;  • Lima, Peru (70%)&lt;br&gt;  • Varna e Burgas, Bulgaria (60%)</td>
<td>• Delhi, India (10%)</td>
<td></td>
</tr>
</tbody>
</table>

| **Public** | - | - |
|  • St. Petersburg, Russia (35.5%)<br>  • Hanover, Germany (30%)<br>  • Xian, China (24.5%) | | |

### AdPM investments in equity shares

<table>
<thead>
<tr>
<th>Partner</th>
<th>Majority</th>
<th>Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>• México (25.5%)&lt;br&gt;  • Jordan (9.5%)</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>

| **Public** | - | - |
|  • Belgium (25%)<br>  • Mauritius (5%)<br>  • Saudi Arabia (5%) | | |
### 2.5 Bidding rules and auction design

**Operation by management contract**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Airport</th>
<th>Pax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraport</td>
<td>Riyadh and Jiddah, Saudi Arabia</td>
<td>30 and 46 m</td>
</tr>
<tr>
<td>Fraport</td>
<td>Cairo, Egypt</td>
<td>16 m†</td>
</tr>
<tr>
<td>Fraport</td>
<td>Dakar, Senegal</td>
<td>6,5 m¹</td>
</tr>
<tr>
<td>AdP*</td>
<td>Sharm el Sheikh, Hurghada, Luxor, Aswan and Abu Simbel - Egypt</td>
<td>20,1 m</td>
</tr>
<tr>
<td>AdP*</td>
<td>Algiers airports</td>
<td>4.4 m</td>
</tr>
<tr>
<td>AdP*</td>
<td>Phnom Penh and Siem Reap in Cambodia</td>
<td>3.3 m</td>
</tr>
</tbody>
</table>

* Aéroports de Paris
† traffic before turmoil
¹ Capacity
2.5 Bidding rules and auction design
2.5 Bidding rules and auction design

Contribution to the airport system

**Fixed fee**
- Bid criterion
- Annual payment based on the winning bid adjusted by inflation (IPCA)

**Variable fee**
Annual payment as a share of the gross revenue:
- Brasília: 2% (value above an upper bracket: 4,5%)
- Viracopos: 5% (value above an upper bracket: 7,5%)
- Guarulhos: 10% (value above an upper bracket: 15%)
Auction stages

1st
Sealed envelope

2nd
Verbal bids

• Simultaneous auction for all three airports
• Each participant can bid for all three airports but it is not possible to be the winner of more than one airport.
• The winning bid must be the one that maximizes the total fixed fee of the auction.
## 2.5 Bidding rules and auction design

<table>
<thead>
<tr>
<th>R$ billions</th>
<th>Guarulhos</th>
<th>Viracopos</th>
<th>Brasília</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triunfo/Egis</td>
<td>4,6</td>
<td>3,8</td>
<td>1,8</td>
</tr>
<tr>
<td>Odebrecht/Changi</td>
<td>8,3</td>
<td>2,5</td>
<td>0,6</td>
</tr>
<tr>
<td>Invepar/ACSA</td>
<td>16,2</td>
<td>2,1</td>
<td>3,2</td>
</tr>
<tr>
<td>OHL Brasil/AENA</td>
<td>12,0</td>
<td>1,7</td>
<td>4,4</td>
</tr>
<tr>
<td>CCR/Zurich</td>
<td>8,9</td>
<td>-</td>
<td>1,0</td>
</tr>
<tr>
<td>Advent/ASUR</td>
<td>8,5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Queiroz Galvao/FAA</td>
<td>6,0</td>
<td>-</td>
<td>2,5</td>
</tr>
<tr>
<td>Ecorodovias/Fraport</td>
<td>12,9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Engevix/Corporacion America</td>
<td>11,5</td>
<td>-</td>
<td>4,5</td>
</tr>
<tr>
<td>Carioca Engenharia/ADP</td>
<td>6,1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ADC&amp;Has/Fidens</td>
<td>-</td>
<td>-</td>
<td>3,9</td>
</tr>
</tbody>
</table>

*Winner*
2. Concessions of GRU, VCP and BSB

GRU: Airport engineering consultancy

**Experience**

- The Airport Consulting Vienna has performed about 300 consulting projects and has participated in approximately 70 cases of airport concessions to private enterprise.

**Experience**

- The TYPSA Group is a set of independent consultancy companies in the fields of civil engineering, architecture and environment.

- **Barcelona Airport (34 m in 2011)** – Construction project

- **Lima Airport (12 m in 2011)** – planning and expansion

- **Madrid (49 m in 2011)** - Construction project
2. Concessions of GRU, VCP and BSB

VCP: Airport engineering consultancy

Experience

NACO has worked in more than 550 airport projects around the world.

- **Beijing Airport (77 m in 2011)** – Master plan
- **Frankfurt Airport (56 m in 2011)** – Master plan
- **Schiphol Airport (49 m in 2011)** – long term development
2. Concessions of GRU, VCP and BSB

VCP: Airport operation consultancy

Experience

- Operator of Munich Airport, the sixth largest airport in Europe, with expertise in all business segments

- 3x World Routes Airport Marketing Awards 2007/8: Winner of the „era Airport Achievement Award“
- 8x: Winner of the „Airport Marketing Award“ (2009-2010 second place winner)
BSB: Airport engineering consultancy

Experience

- Chicago O’Hare Airport – Modernization program (66 m in 2011)
- Hong Kong International Airport (53 m in 2011) – Master plan
- JFK International Airport – Terminal 9 (47m em 2011)

BSB: Operation consultancy

Experience

In U.S., MITRE acts - in partnership with the FAA - in the development of technologies related to airports operation, having a significant role in "FAA NextGen Air Transportation System" (program responsible for modernizing the U.S. air system)
Thank you

Henrique Amarante Costa Pinto
Deputy Director
hacp@bndes.gov.br

www.bndes.gov.br
Back up
2. The first concession: Natal Airport (ASGA)

- **Object**: Structuring the concession of the new Rio Grande do Norte international airport, located 18 km from Natal.

- The existing airport Augusto Severo will become an Air Force Base.

- **Pre-existing works**: runway and apron are being completed by INFRAERO through the Construction Battalion of the Army.

- **Initial capex**: R$350 MM involving passenger terminal, cargo facilities, equipment, basic infrastructure etc.

- **Auction**: August 22 of 2011

- **Highest Bid** – R$ 170 m (228% above the minimum bid)
Timeline of airline deregulation in Brazil

1992-97: 1st Round of Liberalization
- The end of regional monopoly
- Incentives to new entrants

1998-01: 2nd Round of Liberalization
- The end of tariff band
- Annual revision criterion
- The end of special lines exclusivity

2001-02: 3rd Round of Liberalization
- Total tariff liberalization
- Flexibilization of the entry process and application for new lines

2003: Partial re-regulation
- Requirement of a feasibility study to import aircrafts and for entry of new firms

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Management Contract

King Khalid International Airport, Riyadh

King Abdulaziz International Airport, Jiddah

Project
- Management of both airports
- Expansion and modernization projects (JED new terminal for max. 30m PAX, RUH terminal expansion for max. 46m PAX)
- Landside and airside operation
- Optimization of existing flight network
- Supervision of construction progress
- Staff training

Start
June 2008

Term
6 years each

Contract
- Management Contract
- Management, development and operation
- Fixed fee and result-driven incentives

Fonte: Global Investments & Management at a Glance
Cairo, Egito – Management Contract

Successful consulting turns Cairo International Airport into a major regional hub

<table>
<thead>
<tr>
<th>Profile</th>
<th>Long-term objective: Development of Cairo International Airport into a passenger and cargo hub</th>
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| Contract | - Management Contract  
- Modernization of the airport and upgrade to international standards  
- 3 Fraport executives hold the key management positions in co-operation with 3 Egyptian vice Managers  
- Comprehensive training for high-level Management of Cairo Airport |

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<td>Regulation</td>
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BSB: vista panorâmica copa
BSB: Vista Panorâmica Copa
BSB: Sala de embarque
GRU: Vista Panorâmica
VCP: Vista Panorâmica Copa